



# Development of a Forehand Drive Table Tennis Training Model for Juvenile Offenders at the Special Juvenile Rehabilitation Institution in Bengkulu

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## Abstract:

This research aims to develop a forehand drive training model in table tennis, specifically designed for juvenile inmates at the Bengkulu Special Penitentiary for Children. This research uses a Research and Development (R&D) approach, using the ADDIE model (Analysis, Design, Development, Implementation, Evaluation). The method used is the descriptive qualitative method. The study population consisted of juvenile inmates in correctional institutions, with a simple random sampling technique. Research instruments include observation, interviews, questionnaires, and documentation. The validation results from experts showed a high level of approval: material experts at 94%, language experts at 90%, and media experts at 92%. The small group trial involving 10 juvenile inmates resulted in an average approval rating of 86%, while the large group trial with 30 participants resulted in an average approval rating of 90%. Based on these findings, it can be concluded that the Table Tennis Forehand Drive Training Model developed for juvenile inmates at the Bengkulu Special Penitentiary for Children is "Highly Feasible" to be implemented as a new training model at the institution.

**Keywords:** Forehand Drive, Table Tennis, Training Model

## 1. INTRODUCTION

Table tennis is a sport that can be played either as a team or individually, featuring fast-paced ball movement that helps improve motor skills and burn calories. Sports training is always accompanied by a training model at a training facility (Rizky et al., 2024). A model is a method used to perform a task in order to achieve good results as desired, and it represents something that is aimed to be accomplished (Azizah & Hidayat, 2024). Training is the process of repetitively performing physical activities or tasks correctly to enhance performance and achieve the highest possible level of success (Kong & Ma, 2024). According to (Herdiman et al., 2022) training model is a program created by coaches in detail according to the specific sport being taught. It is used to train and organize what will be implemented by the students to enhance their abilities or skills in terms of physical conditioning, technique, and tactics.

The training model developed by (Afendi et al., 2021), it has several advantages, such as making the training model more engaging and simplifying the developed training model. In addition to its advantages, this training model also has a drawback: it does not explain the objectives of the game modifications that have been created (Pane et al., 2021). The development also includes a forehand drive training model, which offers several advantages. The model is designed so that the forehand drive is easy for beginners to execute, providing variety in the exercises and keeping beginners highly motivated in table tennis. Additionally, the model is effective and efficient for enhancing forehand drive skills. However, there are some drawbacks (Jatra et al., 2024). The study faces limitations due to insufficient media resources for implementing the training model. Additionally, athletes' motivation plays a significant role in their training activity, and the management system for the forehand drive training still has limitations when applied to athletes with lower motivation.

Not only in schools but also in child correctional facilities, sports such as table tennis are frequently practiced. Child correctional facilities are commonly abbreviated as LPKA (Bello et al., 2024). Children living in LPKA are commonly referred to as Child Correctional Residents, or abbreviated as (anbinpas). Living in LPKA does not exempt these residents from their developmental tasks as adolescents. LPKA is responsible for assisting these youths in fulfilling

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these developmental tasks (Jarnawi et al., 2024). Therefore, LPKA implements various coaching processes within the facility, both formal and informal, which also present challenges for the juvenile residents. It is crucial for these young residents to develop or hone their skills and intelligence, especially in facing the various obstacles and challenges during their time at LPKA. LPKA is equipped with adequate sports facilities, including table tennis (Liu et al., 2024).

At LPKA, many officers have potential in table tennis, as observed from their frequent play of the sport with the staff. This potential is further supported by the availability of adequate facilities and infrastructure (Sindhu et al., 2024). However, there is still a significant lack of knowledge and understanding regarding basic table tennis techniques. Currently, the officers are the sole source of information, which leads to officers being less active during training sessions. This is because the officers are not experts in the field. The table tennis coaching program is not yet optimal, which results in officers becoming passive and struggling to master the techniques being taught (Qi, 2024). The training process is not effective in motivating officers because a more engaging training model has not yet been developed. This leads to a lack of proficiency in executing the forehand drive. Additionally, officers are not very creative in providing training models, which decreases the officers' interest and makes the training process less effective. The consistent intensity of the training often causes officers to feel bored.

Generally speaking, according to (Hazan-Liran & Walter, 2024), officers are ordinary individuals like us and are not exempt from their human nature, which requires them to meet the demands of life and livelihood. Therefore, officers at LPKA need training to explore their potential and skills, which is expected to be developed after their release from LPKA. Implementing life skills training, such as providing table tennis skills training, is one of the efforts to equip officers with athletic abilities. Through this sports training, they are expected to become useful, active, and productive members of society. The goal is for officers at LPKA to become law-abiding citizens.

Therefore, there is a need to develop a training model in the table tennis coaching process. The development of this training model will create a significant

opportunity for officers to explore their talents as adolescents. Using the latest training model will help prevent boredom during practice and ensure that the training process is more varied for the officers.

## 2. MATERIAL AND METHOD

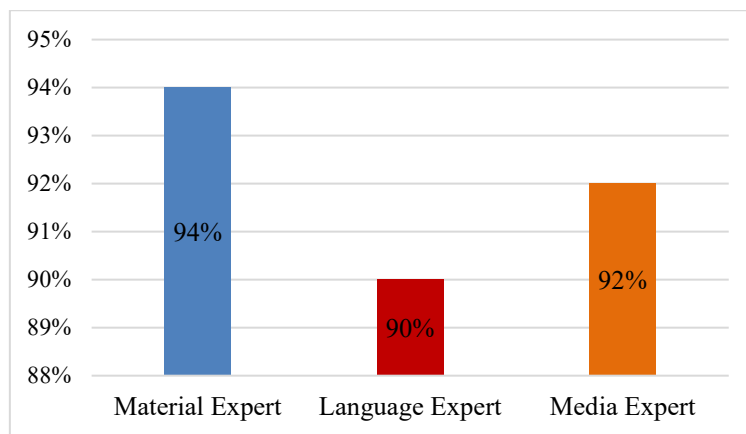
This type of research is classified as Research and Development (R&D) research. According to (Page et al., 2024), research and development is a research method used to produce a specific product and test its effectiveness. It employs the ADDIE model, which includes Analysis, Design, Development, Implementation, and Evaluation. In this study, the product produced is a forehand drive table tennis training model, which will then be validated by material experts, language experts, and media experts. Each expert uses a different type of questionnaire to collect data on evaluations, including feedback, comments, critiques, and suggestions.

This study was conducted from April 5 to May 6, 2024, at the Class II Child Correctional Facility in Bengkulu. The population consists of all officers at the Child Correctional Facility, totaling 105 officers, with a sample size of 40 officers. The study employed simple random sampling techniques. Simple random sampling is a method of selecting samples randomly without considering any strata within the population (Kurniadi et al., 2023).

The technical data analysis in this study uses qualitative descriptive analysis, which includes feedback and critiques from experts, and quantitative descriptive analysis to analyze data obtained from the distribution of questionnaires in small group and large group trials using a Likert scale in percentage form. In the small group trial phase, the researcher involved 10 anbinpas. After completing the small group phase, the researcher proceeded to the large group trial, involving 30 anbinpas.

## 3. RESULT AND DISCUSSION

The feasibility assessment results of the forehand drive table tennis training model were validated by three experts: a material expert, a language expert, and a media expert. The assessment results by the material expert, language expert, and media expert can be seen in the following figure:

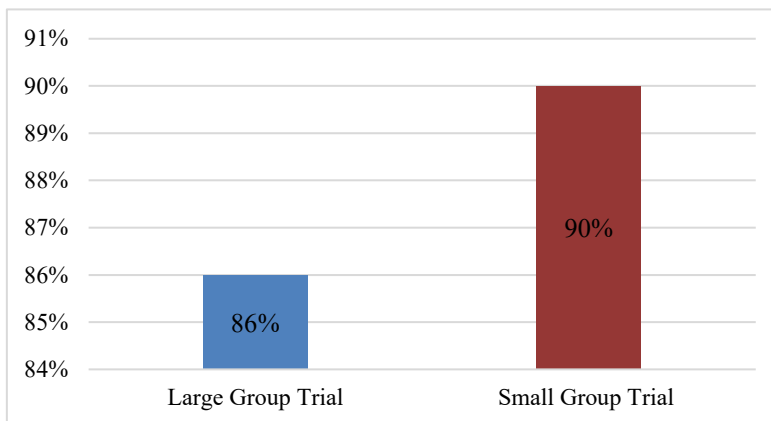


**Figure 1.** Graph of Expert Validation Results

The material expert validation received a score of 94%, categorized as "very feasible." The language expert validation received a score of 90%, also categorized as "very feasible." The media expert

validation received a score of 92%, categorized as "very feasible".

The results of the group trials are as follows:



**Figure 2.** Graph of Trial Results

Based on the results of the small group and large group trial questionnaires given after the practice sessions, the training model is deemed highly suitable, with average percentages of 86% and 90%. Thus, the developed training model makes the

officers feel pleased and interested when the training activities use the model that has been developed.

The output of this research is a video of the developed forehand drive table tennis training model, which can be accessed via the following barcode:



**Figure 3.** Barcode for Training Model Video

#### 4. CONCLUSION

Based on the research results and discussion, it can be concluded that the developed product, in the form of a forehand drive table tennis training model, is suitable and can be used as a training model for the coaching process at LPKA. This is evidenced by the

results of the feasibility survey conducted by experts and the feedback from the respondents regarding the forehand drive table tennis training model.

The developed product, a forehand drive table tennis training model packaged in a video format, is uploaded to YouTube and TikTok so that it can be

accessed by correctional officers anytime and anywhere. This allows the officers to learn the correct techniques and various training models, thereby improving the basic forehand drive skills in table tennis for the officers at LPKA.

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## REFERENCE

- Afendi, F., Wani, B., & Rewo, J. M. (2021). Pengembangan Model Latihan Pukulan Forehand Tenis Meja Sebagai Aktivitas Pembelajaran PJOK Pada Siswa SMP. *Jurnal Edukasi Citra Olahraga*, 1(3), 198–205. <https://doi.org/10.38048/jor.v1i3.497>
- Azizah, N. N., & Hidayat, R. (2024). Pengembangan Asesmen Digital Berbasis Game Edukatif Quizizz pada Mata Pelajaran Marketing. *Journal of Innovation and Teacher Professionalism*, 2(2), 195–209. <https://doi.org/10.17977/um084v2i22024p195-209>
- Bello, B., Flynn, E., Geldhof, G. J., Yu, D., Mueller, M. K., Licardi, K., & Morris, K. N. (2024). Measuring social and emotional functioning as a facet of positive youth development among children and adolescents in special education and mental health treatment. *Social Development*, 33(3). <https://doi.org/10.1111/sode.12738>
- Hazan-Liran, B., & Walter, O. (2024). Potential relations between psychological capital, subjective well-being, and academic adjustment among students with learning disabilities: the value of academic support centres. *European Journal of Special Needs Education*, 1–18. <https://doi.org/10.1080/08856257.2024.2351701>
- Herdiman, D. C., Lubis, J., & Yusmawati, Y. (2022). Model Latihan Kelincahan Tendangan Sabit Pencak Silat Menggunakan Alat Bantu Ladder Drill. *Jurnal Speed (Sport, Physical Education, Empowerment)*, 5(2), 121–126. <https://doi.org/10.35706/jurnalspeed.v5i2.7066>
- Jarnawi, J., Indra, S., Zain, A., Wulandari, P., & Maturidi, M. (2024). The Role of Officers from the Special Child Development Institution Class II Banda Aceh in Dealing with the Adjustment Problems of Juvenile Inmates. *At-Tarbawi: Jurnal Pendidikan, Sosial Dan Kebudayaan*, 11(1), 184–195. <https://doi.org/10.32505/tarbawi.v11i1.8044>
- Jatra, R., Alnedral, A., Firdaus, K., Abdullah, N. M., & Sibomana, A. (2024). The Effect of Groundstroke Forehand Exercise on Speed and Agility in 14 to 16-year-old Tennis Athletes. *Journal of Coaching and Sports Science*, 3(2), 113–121. <https://doi.org/10.58524/002024335800>
- Kong, P. W., & Ma, C. M. S. (2024). Assessing Table Tennis Technical Proficiency in Individuals with Disabilities: A Scoping Review. *Applied Sciences*, 14(11), 4815. <https://doi.org/10.3390/app14114815>
- Kurniadi, A., Hernawan, H., & Nuraini, S. (2023). Table Tennis Forehand Drive Learning Model for Application based Elementary School Students. *Kinestetik : Jurnal Ilmiah Pendidikan Jasmani*, 7(3), 824–832. <https://doi.org/10.33369/jk.v7i3.29429>
- Liu, Y., Abdullah, B. Bin, & Abu Saad, H. Bin. (2024). Effects of high-intensity interval training on strength, speed, and endurance performance among racket sports players: A systematic review. *PLOS ONE*, 19(1), e0295362. <https://doi.org/10.1371/journal.pone.0295362>
- Page, A., Anderson, J., & Charteris, J. (2024). Innovative learning environments and spaces of belonging for special education teachers. *International Journal of Inclusive Education*, 28(6), 891–906. <https://doi.org/10.1080/13603116.2021.1968518>
- Pane, B. S., Tangkudung, J., & Sukur, A. (2021). Forehand Drive Exercise Model in Table Tennis Game. <https://doi.org/10.2991/ahsr.k.210707.015>

- Qi, S. (2024). Embodied learning with metaphors and Rich Picture-like diagrams in actor training: an articulated, playful approach to teaching and practice-led research. *Theatre, Dance and Performance Training*, 1–20.  
<https://doi.org/10.1080/19443927.2024.2369648>
- Rizky, O. B., Raibowo, S., Prabowo, A., Ilahi, B. R., & Permadi, A. (2024). The Contribution Of Arm Muscle Strength And Back Muscle Strength To Volleyball Top Serve Skills. *Riyadhoh : Jurnal Pendidikan Olahraga*, 7(1), 94. <https://doi.org/10.31602/rjpo.v7i1.14729>
- Sindhu, R. M., Markum, M. E., & Meliala, A. (2024). Alternative Open Education System towards a Professional National Police of the Republic of Indonesia: A Case Study of Police Officer Candidate School Students. *International Journal of Research in Social Science and Humanities*, 05(06), 77–100.  
<https://doi.org/10.47505/IJRSS.2024.6.7>